Find the minimum no of squares

Little Johny is a very playful kid and often he thinks about petty problems he comes across. One day he had a chocolate bar with him. He can eat a chocolate bar if and only if it is in the shape of a square whose edge is a multiple of unit length. Little Johny eats at most one piece of chocolate every day. He wondered what is maximum number of days he can keep eating the given chocolate bar of length L and width W. We all know that the answer is L*W if he eats 1*1 chocolate bar a day but Little Johny being a very greedy kid wants to finish the chocolate bar as soon as possible. Help him by finding the minimum number of days within which he can finish the chocolate bar.

Input

Input will start with an integer T (the number of test cases) followed by T lines containing two integers L and W (L and W are between 1 and 10^7 inclusive.)

Note: width can also be greater than height.

Output

For each test case output the answer in a new line.

Limits

1 <= T <= 1000
1 <= L, W <= 10000000

Example

Input:
3
1 1
8 5
9 4

Output:
1
5
6